

1 1. A data storage system wherein end-user data is
2 transferred between a host computer and a bank of disk
3 drives through an interface, such interface, comprising:
4 a memory;
5 a plurality of directors, at least one front-
6 end one of the directors being in communication with the
7 host computer and at least one rear-end one of the directors
8 being in communication with the bank of disk drives;
9 an interface state data bus section, for
10 carrying interface state data, such interface state data bus
11 section in communication with: both the at least one front-
12 end one and the at least one rear-end one of the directors;
13 and to the memory;
14 a plurality of end-user data busses, for
15 carrying end-user data, each one of the plurality of end-
16 user data busses having a first end coupled to a
17 corresponding one of the plurality of directors and a second
18 end coupled to the memory; and
19 wherein such plurality of directors control the end-
20 user data transfer between the host computer and the bank of
21 disk drives through the memory via the end-user data busses
22 in response to interface state data generated by the
23 directors, such generated interface state data being
24 transferred among the directors through the memory via the
25 interface state bus.

1 2. The system recited in claim 1 wherein the end-
2 users data busses are serial busses.

1 3. The system recited in claim 1 wherein the
2 interface state data buss section includes parallel busses.

1 4. The system recited in claim 3 wherein the
2 parallel busses are coupled to the directors in a multi-drop
3 configuration.

1 5. The system recited in claim 3 wherein the end-
2 user data busses are serial busses.

1 6. The system recited in claim 5 wherein the
2 parallel busses are coupled to the directors in a multi-drop
3 configuration.

1 7. The system recited in claim 1 including a
2 coupling node and wherein each the memory has a plurality of
3 regions and wherein the each one of the end-user data buses
4 is coupled to the plurality of regions selectively through
5 coupling node.

1 8. The system recited in claim 7 wherein the
2 coupling node includes a cross-bar switch.

1 9. The system recited in claim 3 wherein the
2 interface state data bus section includes a plurality of
3 parallel busses, each one thereof being coupled to a one of
4 the plurality of directors and to the memory.

1 10. A method of operating a data storage system
2 wherein end-user data is transferred between a host computer
3 and a bank of disk drives through an interface, such method
4 comprising:

5 providing a memory;
6 providing a plurality of directors, at least
7 one front-end one of the directors being in communication
8 with the host computer and at least one rear-end one of the

9 directors being in communication with the bank of disk
10 drives;

11 providing a plurality of interface state data
12 busses for carrying interface state data, interface state
13 data busses being in communication with: both the at least
14 one front-end one and the at least one rear-end one of the
15 directors; and to the memory;

16 providing a plurality of end-user data busses,
17 for carrying end-user data, each one of the plurality of
18 end-user data busses having a first end coupled to a
19 corresponding one of the plurality of directors and a second
20 end coupled to the memory; and

21 wherein such plurality of directors control the end-
22 user data transfer between the host computer and the bank of
23 disk drives through the memory via the end-user data busses
24 in response to interface state data generated by the
25 directors, such generated interface state data being
26 transferred among the directors through the memory via the
27 interface state bus.